

Amendments to the Claims:

The following listing of claims replaces all prior listings, and prior versions, of the claims.

Listing of Claims:

1 - 33. (cancelled)

34. (currently amended) A method for heat treating at least one workpiece comprising the steps of:

cleaning a furnace chamber to be used during said heat treating method;

said cleaning step being performed without said at least one workpiece being present in said furnace chamber;

said cleaning step comprising ~~injecting~~ introducing a cleaning gas into the furnace chamber only at a center of an area where the at least one workpiece is to be located; ~~in said furnace chamber,~~

said ~~injecting~~ introducing step comprising injecting said gas at a partial pressure and a flow rate sufficient to create a pressure differential within said furnace chamber which carries contaminants away from said center of an area where the at least one workpiece is to be located and toward an exit of said furnace chamber;

said cleaning step further comprising ~~applying heat~~ heating said furnace chamber at a temperature which is 200 to 300 degrees Fahrenheit above a temperature to be used in a

subsequent diffusion heat treating step for at least 30 minutes;
and

after said cleaning step has been completed, placing said at least one workpiece within said cleaned chamber and diffusion heat treating said at least one workpiece in a gas atmosphere with said gas being ~~injected~~ introduced into the furnace chamber only at said center of an area in said furnace chamber where the at least one workpiece is to be located.

35. (previously presented) A method according to claim 34, wherein said gas injecting step comprises injecting said gas at a partial pressure of at least 0.8 Torr.

36. (previously presented) A method according to claim 35, wherein said gas injecting step comprises injecting said gas into said furnace at a rate of 30 liters per minute to 70 liters per minute.

37. (previously presented) A method according to claim 34, wherein said gas injecting step comprises injecting an inert gas.

38. (previously presented) A method according to claim 34, wherein said gas injecting step comprises injecting argon.

39. (previously presented) A method according to claim 34, wherein said gas injecting step comprises injecting a reducing gas.

40. (previously presented) A method according to claim 34, wherein said diffusion heat treatment step is carried out at a temperature in the range of 1900 degrees Fahrenheit to 2500 degrees Fahrenheit for a time period in the range of 1 to 24 hours.

41. (currently amended) A method according to claim 40, wherein said diffusion heat treatment step comprises ~~injecting~~ introducing said gas ~~only at said center and~~ at a rate sufficient to carry away contaminants in said at least one workpiece but less than a rate at which a door to said furnace chamber is caused to open.

42. (currently amended) A method according to claim 41, wherein said diffusion heat treatment step comprises ~~injecting~~ introducing said gas at a partial pressure of at least 0.8 Torr.

43. (currently amended) A method according to claim 42, wherein said gas is ~~injected~~ introduced into said furnace at a flow rate of 30 liters per minute to 70 liters per minute.

44. (currently amended) A method according to claim 41, wherein said diffusion heat treatment comprises ~~injecting~~ introducing an inert gas.

45. (currently amended) A method according to claim 41, wherein said diffusion treatment comprises ~~injecting~~ introducing argon.

46. (currently amended) A method according to claim 41, wherein said diffusion heat treatment comprises ~~injecting~~ introducing a reducing gas.

47. (previously presented) A method according to claim 34, wherein said injecting step further comprises providing a manifold within said chamber, positioning said manifold at said center of an area where the at least one workpiece is to be located, and injecting said gas only at said center of an area where the at least one workpiece is to be located via said manifold.

48 - 52. (cancelled)